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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,254	07/07/2000	Masaharu Ikeda	JEL 31210	7590

7590 09/15/2003
Stevens Davis Miller & Mosher LLP
Suite 850
1615 L Street NW
Washington, DC 20036

EXAMINER

LAO, LUN S

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 09/15/2003

[Handwritten number 3]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,254

Applicant(s)

IKEDA, MASA HARU

Examiner

Lun-See Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. Claims 1-22 of U.S. application 09/612,254 filed on 07/07/2000 are presented for examination.

Specification

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in 11-194016 on 07/08/1999. It is noted, however, that applicant has not filed a certified copy of the 09/612,254 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Korner (US PAT. 6,104,818).

Consider claim 1 Korner teaches a condenser microphone apparatus comprising:

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a movable electrode (membrane, see fig.8, (10)), which vibrates by an acoustic vibration;

a fixed electrode (stationary electrode, see fig.8, (10)) arranged so as to face said movable electrode (see col.1 lines 15-32);

amplifying means (see fig.8, (18, 48)) for buffer-amplifying a voltage across said movable electrode and a voltage across said fixed electrode;

a bypass capacitor (41) in which one end is connected to a signal output terminal of said amplifying means (18, 48) and the other end is connected to a common output terminal of said amplifying means (18, 48); and

a series resistor (45) inserted at least in one of an interval between said signal output terminal of said amplifying means (18, 48) and an output terminal of the apparatus and an interval between said common output terminal of said amplifying means (18, 48) and a common output terminal of the apparatus (see col.3 line 5-50).

Consider claim 13, Korner teaches a connecting apparatus which is connected to a Condenser microphone unit comprising:

a movable electrode (membrane, see fig.8, 10), which vibrates by an acoustic vibration;

a fixed electrode (stationary electrode) arranged so as to face said movable electrode (see col.1 lines 15-32);

amplifying means (18) for buffer-amplifying a voltage across said movable electrode (10, membrane) and a voltage across said fixed electrode (10, stationary electrode); and a bypass capacitor (41) in which one end is connected to a signal output terminal

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of said amplifying means (18,48) and the other end is connected to a common output terminal of said amplifying means (18,48), wherein said connecting apparatus has a series resistor (45) inserted at least in one of an interval between said signal output terminal of said amplifying means (18,48) and an output terminal of the apparatus and an interval between said common output terminal of said amplifying means (18,48) and a common output terminal of the apparatus (see col.3 lines 5-50).

5. Claims 7, 9-12, 14, 16 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Papadopoulos (US PAT. 6,504,937).

Consider claim 7, Papadopoulos teaches a condenser microphone apparatus comprising:

- a movable electrode (see fig.1 (102 electret diaphragm)) which vibrates by an acoustic vibration;

- a fixed electrode (102, such as backplate, a source terminal coupled to ground) arranged so as to face said movable electrode (see fig.1 (102 electret diaphragm));

- amplifying means (see fig.1, Q1, JFETN) for buffer-amplifying a voltage across said movable electrode(see fig.1 (102 electret diaphragm)) and a voltage across said fixed electrode (102, a source terminal coupled to ground and see abstract);

- a bypass capacitor (C3) in which one end is connected to a signal output terminal (drain) of said amplifying means (Q1) and the other end is connected to a common output (ground) terminal of said amplifying means (Q1); and a serial circuit of a blocking capacitor (C2) and a damping resistor (R2 (R2 is influence of diaphragm's

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moving)), in which one end is connected to said signal output terminal (drain) of said amplifying means (Q1) and the other end is connected to the common output (ground) terminal of said amplifying means (Q1 and see col.1 line 55-col.2 line 31).

Consider claims 9-12, Papadopoulos teaches an apparatus of the damping resistor (see fig.1, R2 (R2 is influence of diaphragm's moving)) inherently is formed by adhering a resistor onto a surface (circuit board) or an inner layer of a wiring circuit board; and an apparatus of the serial circuit of said blocking capacitor (fig.1, (C2)) and said damping resistor (R2 (R2 is influence of diaphragm's moving)) inherently is installed on a board provided outside of the apparatus (102); and an apparatus (see fig.1, (102)) of an electrostatic shield is provided at least in one of an interval between said fixed electrode (102, such as backplate, a source terminal coupled to ground) and a signal output terminal of the apparatus (102), an interval between said fixed electrode(102, such as backplate, a source terminal coupled to ground) and said blocking capacitor (C2), and an interval between said fixed electrode (102, such as backplate, a source terminal coupled to ground) and said damping resistor (R2 (R2 is influence of diaphragm's moving and see abstract)); and an apparatus of the amplifying means (Q1) is constructed by a field effect transistor (see abstract).

Consider claim 14 Papadopoulos teaches a connecting apparatus which is connected to a condenser microphone unit comprising:

a movable electrode (see fig.1 (102 electret diaphragm)) which vibrates by an accustic vibration (see col.1 line 53-col.2 line3);

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a fixed electrode (102, such as backplate, a source terminal coupled to ground) arranged so as to face said movable electrode (see fig.1 (102 electret diaphragm));

amplifying means (see fig.1 Q1) for buffer-amplifying a voltage across said movable electrode (see fig.1 (102 electret diaphragm)) and a voltage across said fixed electrode;

(102, such as backplate, a source terminal coupled to ground and see abstract) and

a bypass capacitor (C3) in which one end is connected to a signal output terminal (drain) of said amplifying means (Q1) and the other end is connected to a common output (ground) terminal of said amplifying means (Q1),

wherein said connecting apparatus (102) has a serial circuit of a blocking capacitor (C2) and a damping resistor (R2 (R2 is influence of diaphragm 's moving)), in which one end is connected to said signal output terminal (drain) of said amplifying means (Q1) and the other end is connected to the common output (ground) terminal of said amplifying means (Q1 and see col.1 line 55-col.2 line 33).

Consider claim 16, Papadopoulos teaches a connecting apparatus which is connected to a condenser microphone unit comprising:

a movable electrode (see fig.1 (102 electret diaphragm)) which vibrates by an acoustic vibration;

a fixed electrode arrange (102, such as backplate, a source terminal coupled to ground) so as to face said movable electrode(see fig.1 (102 electret diaphragm)) ; and

amplifying means (see fig.1 Q1) for buffer-amplifying a voltage across said movable electrode (see fig.1 (102 electret diaphragm)) and a voltage across said fixed electrode (102, such as backplate, a source terminal coupled to ground and see abstract),

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wherein said connecting apparatus (102) has a bypass capacitor (C3) in which one end is connected to a signal output terminal (drain) of said amplifying means (Q1) and the other end is connected to a common output (ground) terminal of said amplifying means (Q1), and

a serial circuit of a blocking capacitor (C2) and a damping resistor (R2 is influence of diaphragm 's moving), in which one end is connected to said signal output terminal of said amplifying means (Q1) and the other end is connected to the common output (ground) terminal of said amplifying means (Q1 and see col.1 line 55-col.2 line33).

Consider claim 22, Papadopoulos teaches an apparatus of the damping resistor (see fig.1, R2 (R2 is influence of diaphragm 's moving)) inherently is formed by adhering a resistor onto a surface (circuit board) or an inner layer of a wiring circuit board (see fig.1).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5-6, 13, 15, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Lininger (US PAT. 3,944,756).

Consider claims 1, Lininger teaches a condenser microphone apparatus comprising:

a movable electrode (diaphragm, see fig.2 (40)) which vibrates by an acoustic vibration;

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a fixed electrode (backplate, see fig.2, (56)) arranged so as to face said movable electrode (see col.2 line 58-col.3 line50);

amplifying means (see fig.3, (90)) for buffer-amplifying a voltage across said movable electrode (40) and a voltage across said fixed electrode (56);

a bypass capacitor (110,112) in which one end is connected to a signal output terminal of said amplifying means (90) and the other end is connected to a common output (ground) terminal of said amplifying means (90); and

a series resistor (106) inserted at least in one of an interval between said signal output terminal of said amplifying means (90) and an output terminal (ground) of the apparatus (24) and an interval between said common output (ground) terminal of said amplifying means (90) and a common output terminal of the apparatus (see col.4 line 39-col.5 line 51).

Consider claims 5-6, Lininger teaches an apparatus of the series resistor (see fig.3, (106)) is installed a board provided outside of the apparatus (24); and an apparatus of an electrostatic shield (see fig.3 (24) is provided at least in one of an interval between said fixed electrode (56) and said signal output terminal (82,88) of the apparatus (24), an interval between said fixed electrode (56) and said bypass capacitor (110,112), and an interval between said fixed electrode (56) and said series resistor (106).

Consider claim 13, Lininger teaches a connecting apparatus which is connected to a Condenser microphone unit comprising:

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a movable electrode (diaphragm see fig.2, (40)), which vibrates by an acoustic vibration;

a fixed electrode (backplate see fig.2, (50)) arranged so as to face said movable electrode (40);

amplifying means (see fig.3, (90)) for buffer-amplifying a voltage across said movable electrode (40) and a voltage across said fixed electrode (56); and a bypass capacitor (110,112) in which one end is connected to a signal output terminal of said amplifying means (90) and the other end is connected to a common output (ground) terminal of said amplifying means (90), wherein said connecting apparatus has a series resistor (106) inserted at least in one of an interval between said signal output terminal of said amplifying means (90) and an output terminal of the apparatus (24) and an interval between said common output (ground) terminal of said amplifying means (90) and a common output (ground) terminal of the apparatus (24 and see col.4 line 39-col.5 line 51).

Consider claim 15, Lininger teaches a connecting apparatus which is connected to a condenser microphone unit comprising:

a movable electrode (diaphragm see fig.2, (40)), which vibrates by an acoustic vibration;

a fixed electrode (backplate see fig.2, (50)) arranged so as to face said movable electrode; and

amplifying means (90) for buffer-amplifying a voltage across said movable electrode (diaphragm see fig.2, (40)) and a voltage across said fixed electrode (backplate see fig.2, (50)),

wherein said connecting apparatus (24) has a bypass capacitor (110,112) in which one end is connected to a signal output terminal of said amplifying means (90) and the other end is connected to a common output (ground) terminal of said amplifying means (90), and

a series resistor (106) inserted at least in one of an interval between said signal output terminal of said amplifying means (90) and an output terminal of the apparatus (24) and an interval between said common output (ground) terminal of said amplifying means (90) and a common output (ground) terminal of the apparatus (27 and see col.4 line 39-col.5 line 51).

Consider claim 20-21, Lininger teaches an apparatus of the series resistor (see fig.3 (106)) comprises a spring (86) terminal connector constructed by a resistive spring contact (see col.3 line 50-col.4 line 61), and an apparatus of the series resistor (see fig.3, (106)) inherently is formed by adhering a resistor onto a surface (circuit board) or an inner layer of a wiring circuit board.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lininger (US PAT 3,944,756) in view of Kubota (US PAT. 5,635,670).

Consider claim 2, 18 Lininger does not teach clearly an apparatus at least one of said series resistor (see fig.3 (106)) and said bypass capacitor (110,112) is made of a multi-Layer film.

However, Kubota teaches the series resistor and said bypass capacitor is made of a multi-Layer film (see col.1 lines 18-25).

Therefore, it would obvious to one of ordinary skill in the art at the time invention was made to combine the teaching of Lining and Kubota to provide a multilayer electronic component which can reduce arrangement pitches for external electrodes.

9. Claims 3-4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lininger (US PAT 3,944,756) in view of Takuya (US PAT. 4,525,817).

Consider claims 3-4, Lininger does not teach clearly an apparatus of the series resistor (see fig.3, (106)) is formed by adhering a resistor onto a surface or an inner layer of a wiring circuit board; and an apparatus of the series resistor (see fig.3, (106)) inherently is formed by filling a resistor into a viahole (78) of a wiring circuit board (see fig.3).

However, Takuya teaches an apparatus of the series is formed by adhering a resistor onto a surface or an inner layer of a wiring circuit board (see col.1 line 60-col.2

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line 35); and an apparatus of the series resistor is formed by filling a resistor into a viahole (see fig.3a) of a wiring circuit board (col.3 lines 20-68).

Therefore, it would obvious to one of ordinary skill in the art at the time invention was made to combine the teaching of Lining and Tauya to provide a an acoustic resistor capable of affording a desired acoustic impedance to the tone aperture portion of an electro-acoustic transducer.

Consider claim 17, Lining does not teach clearly an apparatus of the series resistor (see fig.3 (106)) is made of a resistive fiber or a conductive rubber.

However, Takuya teaches an apparatus of the series resistor is made of a resistive fiber or a conductive rubber (see col3 lines 20-67).

Therefore, it would obvious to one of ordinary skill in the art at the time invention was made to combine the teaching of Lining and Tauya to provide a an acoustic resistor capable of affording a desired acoustic impedance to the tone aperture portion of an electro-acoustic transducer.

10. Claims 8 and 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papadopoulos (US PAT 6,504,937) in view of Kubota (US PAT. 5,635,670).

Consider claims 8 and 19, Papadopoulos does not teach clearly an apparatus at least one of said bypass capacitor (see fig.1 (C3)), said damping resistor (see fig.1, R2 (R2 is influence of diaphragm 's moving)), and said blocking capacitor (C2) is made of a multilayer film.

However, Kubota teaches an apparatus at least one of said bypass capacitor, said damping resistor, and said blocking capacitor is made of a multilayer film (see col.1 lines 18-25).

Therefore, it would obvious to one of ordinary skill in the art at the time invention was made to combine the teaching of Popadopoulos and Kubota to provide a multilayer electronic component which can reduce arrangement pitches for external electrodes.

Conclusion

11. The prior art of record and not relied upon is considered pertinent to applicant's disclosure. Ikeda (US PAT 5,579,397) is recited to show other related the condenser microphone apparatus and its connecting apparatus.

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (703) 305-2259 The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Crystal Park 2
(703305-2259)


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600